Thermal Control Nano-Sat, Phase II

Completed Technology Project (2010 - 2014)

Project Introduction

Based on successful space testing onboard the Midstar1 satellite, Eclipse Electrochromics have been identified by a number of organizations as well as NASA as a high interest technology. For nanosats, the critical design challenge is achieving autonomous control of the EclipseVEDs

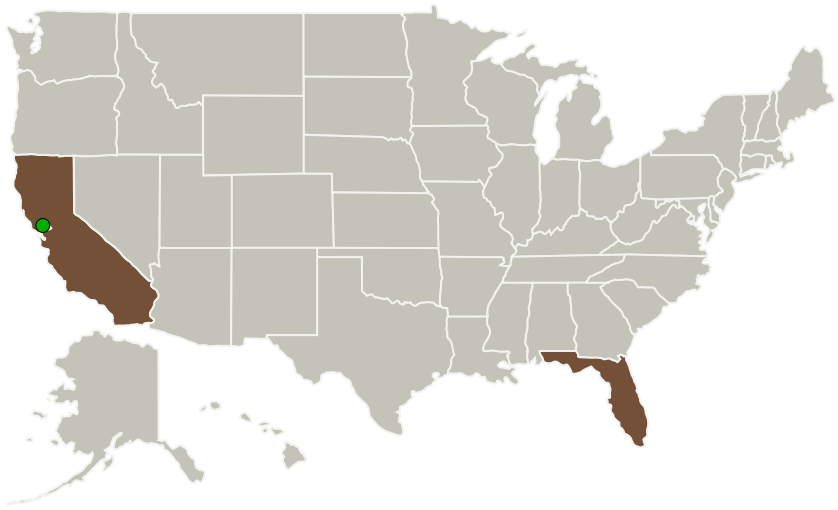
TM

for spacecraft thermal self regulation without the need for human intervention. To achieve this goal, Eclipse employed EclipseVED

TM

technology and demonstrated the capacity to have automated control thermal systems capable of in-flight thermal regulation of a cubesat or other small satellite. In Phase II, Eclipse will build a complete multi-panel cubesat and work with NASA to lab test a completely functional prototype and review the capacity to utilize the ECDs concurrently with photovoltaics.

Primary U.S. Work Locations and Key Partners



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Organizations Performing Work	Role	Type	Location
Eclipse Energy Systems, Inc.	Lead Organization	Industry	St. Petersburg, Florida
Ames Research Center(ARC)	Supporting Organization	NASA Center	Moffett Field, California

Primary U.S. Work Locations	
California	Florida

Project Transitions

February 2010: Project Start

February 2014: Closed out

Closeout Documentation:

- Final Summary Chart*(https://techport.nasa.gov/file/140066)*

Organizational Responsibility

Responsible Mission Directorate:

Space Technology Mission Directorate (STMD)

Lead Organization:

Eclipse Energy Systems, Inc.

Responsible Program:

Small Business Innovation Research/Small Business Tech Transfer

Project Management

Program Director:

Jason L Kessler

Program Manager:

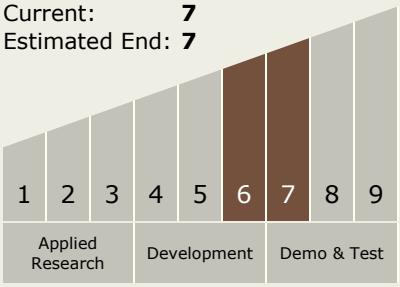
Carlos Torrez

Principal Investigator:

Kenneth Shannon

Technology Maturity (TRL)

Start: **6**
Current: **7**
Estimated End: **7**



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Technology Areas

Primary:

- TX14 Thermal Management Systems
  - TX14.2 Thermal Control Components and Systems
    - TX14.2.3 Heat Rejection and Storage

Target Destinations

The Sun, Earth, The Moon, Mars, Others Inside the Solar System, Outside the Solar System